Admirable Reports Presented by Gen. Colton Greene and Chairman S. W. Hampton.

WOLF EIVER WATER THE PUR-EST IN THE LAND,

So Say the Experts Charged With the Analysis of Its legredients.

The City Hall yesterday was the scens of a meeting likely to leave an indelible impress upon the history of Memphis. There were assembled in Judge Hadden's office the Water Committee, composed of ten gentlemen selected for their prominence in the community, for their unimpeachable integrity and for their thorough knowledge of affairs, to report upon a plan of water supply adequate to the needs of the city and free from objection on sanitary grounds. The gendemen who compose the committee all present, and so ably and satisfactorily have they discharged their duties that it is pleasant to record their names. They are: Gen.
Colton Greene, S. W. Hampton, John
Overton, jr., J. C. Neely, Napoleon
Hill, E. Lowenstein, Judge W. M.
Smith, Charles C. Hein, M. Gavin and Dr. Robert Mitchell. Special praise is due to Gen. Greene and Mr. Hampton for the very able reports which they have presented to the committee and the thorough and value to the committee and the results accomplished form , a monument of skill, industry and indefstigable connection with the water question. For eighteen months he has made it the study of his life, and devoted to if the best energies of his sturdy manhood. The result speaks for itself, and will end the its author to the eternal gratitude of all who have the welfare of the city at heart.

The rarge drafts upon our space made necessary by the report itself renders further reference to the authors inexpedient. At some future time, however, it may be within our to render unto Casar hich is due to Creear. Upon a table in full view of the committee were samples of Wolf river water in various stages of purity. That which had passed through the Hyatt filter was sonsplenous y remarkable for its lucid limpidity and crystal clearness. Samples will be on exhibition today in the window of Wright Bros., on Main street, affording all interested an opportunity of judging for themselves. Promptly after the meeting was called to order Gen. Greene took the floor and read the following report:

Mumrais, Tenn., December 1, 1886. To the Water Committee:

GENTLEMEN—By resolution of the committee passed April 3, 1886, the consideration of those parts of the report which the writer had the honor to submit February 23, 1886 (see pages 37, 28, 39, 40, 41, 44, 45 and 47), relating to South Horn Lake as a source for further investigation, to be conommendations would stand for trust-worthy opinions, free from local influences, interests and prejudices. This report, therefore, is founded on the opinions of the experts employed, and is intended to present the ques-tion for the final determination of the

The inquiry into the sanitary ques tions involved in the proposed plans for the use of South Horn Lake was conducted by Dr. Chas Smart, Surgeon and Major United States Army, an experlenged sanitary analyst recognized as one of the foremost authorities on public wa'er supplies in their relation to public health. Primarily, his in-vestigations concerned the water of the Lake, but since it is only by taking a mean of many experiments under identical circumstances that results exactly consistent can be reached, it was necessary to analyze the waters of the Misssissippi and Wolf rivers and the Pass, as well as of the Lake. The analyses of these waters were begun April 3d and continued at interyels to Ostober 6, 1886, as shown in the synopsis to Dr. Smart's report, which also embraces others made by him to 1879 and 1880 for the National Board of Health. The samples for examination were collected under the direction of the writer, aided by Capa Jas E. Cleary, Chief of Fire Department, and the steamers of the Lee Line and the steam tugs of Mesers. Brown & Jones, (in charge of Mr. Robert A. Speed), which were vol-

untarily placed at his service by their Dr. Smart's report, which is now submitted to the committee (Appendix A.) presents an exhaustive review of the subject, and, saide from its prac-tical value to Memphia is a useful and important contribution to the literature of sanitary science. The proposal for admitting the water of the Mississippi river by the Pass into the Lake is condemned. It is shown that the water of the river, above the mouth of Wolf river and near the Pass, is genloaded with organic matter; that the inflow into the Lake takes place only during the periods when the river water has a high degree of impurity; and that, notwithstanding purifying changes would take place in its passage and the water be diluted by the batter water in the Lake derived from the water shed, the sewage inflow in-volves so much danger to the public health that any suggestion for the uso of the river water should meet with an earnest protest. Nor is the plan for excluding the river water from the lake and relying solely for the supply from the water shed approved. It is thought probable that the waters from the local drainege area are "much superior in quality to that of the Mississippi river, and that in progress of time, after the reclamation of the lands time, after the reclamation of the lands now subject to overflow, an excellent water supply might be obtained from these sources; but it is feared that of filtration." It is Mr. Crees's the extensive changes in the charac-ter of the bottom lands that would tion of a given area" (by the Hyar attend and follow the attempted re- method) "to about a venir five times clamation would develop maiarial infininees that would pervade the waters | tion" of the Lake for a continued period,

thought inexpedient to investigate time," it "will unquestionably be of this brauch of the subject further, and examinations of the water of Wolf river, near where it is crossed ares at a time appeared to me (him) and examinations of the water of Wolf river, near where it is crossed by the Louisville and Nashville railway, about forty-five miles, (reckoned by its sinnosities,) above its mouth, were entered on for determining its quality and condition when filtered by the Hyatt method.

The results obtained from these examinations are exhibited in the analyses numbered 11, 12, 13, 14, 15,

16 of Dr. Smart's report. Since the main inquiry at this point was for resolving the utility and efficiency of the Hyatt filter for clearing the water when in its wors! condition, five gallons of it were collected Sep tember 16, 1886, directly after a beating and heavy raiofall of several days duration, when the river was swollen and filled with driftwood, and the water more to bid than it had been observed in many years. This sample was sent by Capt. Cleary to the writer in New York, one part of which was filtered by the Hyatt method. Equal parts of the natural and filtered water were then sent to Dr. Smart, at Washington, for analysis, corresponding to the two bottles that are now exhibited to the committee, which were sent back to Memphis.

The filtered water, as will be noticed, is clear and pellucid; the natural water muddy and repulsive to the sight. The test was crucial. The nat ural water contained 146 parts of solid matter in 100 000, of which the filtration removed 77 grains to each gallon -or 27,500 pounds to 2,500,000 gallons, the essumed daily work of a 30-foot filter. It is not to be understood, however, that the water would be pumped for the public supply while in this anomalous condition, as this experiment was employed only to test

filtration. efficient manner in which they have discharged the duties committed to Dr. Smar, "it appears that the water them. Gen. Greene's equipment as an exper engineer was of incalculable sightly in its turbid state, is an excellent water when its suspended mat-ters have been removed. In contains only about eight grains of diesolved application that deserves to bring to saline substances per gallon, and the its author a crown of immortality. organic ammonia distilled from it falls Perhaps it may be premature to hint within the arbitrary limits of wholest these things, but enough is known someness adopted by most satisfaction to justify us in the assertion that no sutborities; * * * and if filtration be effected and a clear water furnished stretch of extravagant commendation) be effected and a clear water furnished can begin to reward. Gen. Greene for) that clear water will be of a satisfacthe admirable work he has done in tory quality for all the purposes of a municipal supply. This was demonstrated, not only by the present analyses, but by several made in 1879.

If the Hyatt filter can accomplish the directions of the several state.

complish the filtration, so far as the demands of quantity are concerned, the writer (Dr. Smart) is confident that the altered water, if clear, will be of a satisfactory purity. And, besides removing the suspended matter and yielding a clear water for domestic and manufacturing purposes, the filtration may be contidently expected to free the water from all suspicion of malarial contamination. • Small streams are obviously better than large streams as a source of supply, because the area drained by them may be more effectively guarded against dan-gerous comminations. An efficient supervision is the only known pre-ventive of the invasion of typhoid by the water supply. With such care ex-roised over the radicles and course of the Wolf river, and the subsequent fit along of the water as proposed.

fi traion of the water as proposed, a pure and healthful supply may be ob-tained for the city of Memphis." PILERATION BY THE HYATT METHOD. The filter plant proposed by the

Newark Filtering Company for clear-ing the water of Wolf river, described in the report of February 23, 1886, has since that date been recommended for filtering the public water supply of Weshington, D. C. The examination of public water supply and the Hyatt of the works and method in this inmethod of fitration, was adjourned stance, was intrusted to Capt. T. W. for further investigation, to be con-General John Newton, Chief of Engineers, in pursuance of a resolution of the United States Senate (February 8, 1886 - Ex. Doc. No. 154). The recommendation was for a plant capable of filtering 40,000,000 gallons per twenty-four hours, and it is believed that an appropriation for carrying out the plan will be made by Congress during its approaching session. Similar works are now in successful operation in Sommerville and Brunswick, N. J.; Charleston, W. Va.; Belleville, Ill., etc., and others are being eracted in other cities.

The writer's own examinations and observations of the plan, extending over a period of fifteen months, had satisfied him of its efficiency, yet since there had been no experience for de-termining its adaptability to the needs of Memphis, he required further de-monstration. To this end the filter was subjected to the extreme test of the turbid water of Well river, as has been related, and the determination of the mechanical and hydraulic capabilities referred to Mr. J. J. R. Cross, C. E and Mr. A. A. Wilson, M. E. of New York, engineers of established reputation and high character, who, it may be remarked, began the examination with characteristic professional

distrust of innovations. Their reports are herewith submitted (B and C of appendix) with the plans and specifications for the Memphis plant proposed by the Newark Filtering Company (D, E, F, G, H, I of appendix), who are to guarantee its efficiency and are to receive no compensation until its success has been demonstrated. This plant differs from the Washington plan mainly in re-spect of the method employed for washing the filter bed, and consists of three cylindrical open iron tanks, wenty feet high and thirty and onequarter feet in diameter, each containing a filter bed of sand and coke six feet deep; an apparatus for feeding the coagulauts; standpips; wrought from well 100 feet deep and five feet in diameter, and the required pipes, valves, gates, etc., all of which are fully set forth in the specifications.

The proposal embraces the aeration of the water, and the guaranteed daily service is for 7,500,000 gallons, filtered. Mr. Willaon in his report expresses the opinion that "the general design and arrangement of the details of this filter plant are excellent" and that he can see no reason why in a mechanical point of view the whole plans aboutd not operate practically." He approves the devices for supplying the coagulants and for agraing the water, "if they are properly designed;" determines the increased cost of fi tra-tion, etc., elc.; makes valuable suggestions for improving the minor parts, and though expressing a qualified reservation, concludes that he cannot see why, "should this filter be adopted at the Memphis water works, it would what is possible by a simple filtra-tion" is practicable and "fally provent" that "although the aeration of the Leke for a continued personal of the filtered water" may not "pro-and necessitate a thorough filtration of the filtered water" may not "pro-duce the exidation necessary to pre-

on examining its operation to be ex-ceedingly effective," but he thinks it will be necessary in order to secure the high rate of filtration guaranteed "to so arrange the tanks that a head of at least fifty feet can be put on the filter, which "won'd increase the annual cost of pumping about \$2700 above Mr. Willson's estimate;" agrees with Mr. Willson's estimate;" agrees with Mr. Willson's estimate;" agrees with water pumped will be consumed in washing the fliter-bed, and rays, in conclusion, "I am of opinion that the general plan of filtration proposed is entirely practicable and will be composed in entirely practicable and will be conn-mical, and I recommend its adoption."

It has already been shown (report, Pebruary, 1888.) that the water of Wolf river, below Raleigh, was expressly condemned for domestic use, and it was recommended that the public supply should be taken from a point near where the Louisville and Nashville railroad crosses the river, for economic ressons. Detailed estimates of approximate cost, expense and revenue were also submitted, and a general plan proposed (pages 44, 45, 46). It was then suggested that a high service supply was not yet needed, but the increasing growth of the city, as it appears today, seems to indicate that this provision should be made and downtless other changes of made, and doubtless other changes of the plans will be found expedient when the work is began.

In the business parts of the city, where the elevation is great, the pressure from the proposed reservoir would vary from 28 to 36 pounds. It is proposed to increase this pressure to 65 within the area extend-ing from Exchange street south to the city limits, and lying between the efficiency of the Hyatt process of the Mississippi river and the alley east of Second street, thence by Mulberry street south, by means of an iron res ervoir or tank, supported by a High Service Tower, to be located adjacent to the proposed distributing reservoir, this area to be supplied by a separate main connecting with the general system of pipes (cut off by stop gates), to provide as saleguards for reinforcing each other. The Tower is to be con-structed of brick and stone, of a hight raise the flow line eightyfive feet above the distributing reservoir. The tank (30x32 feet), is to have a capacity of 140,000 gallons, and is to be supplied by pumps capable of lifting 1,500,000 galcapable of lifting 1,500,000 gal-lons in each twenty i ur hours. The cost of the whole plant will be, approximately, \$30,000, and the men in charge would be also employed to operate the Filters. The increased expense of maintenance and interest would be compensated by a greatly increased revenue. The pressure to be afforded will lift the heaviest elevators to be employed, bring into use motors and turbines for operating light machinery for manufacturing, and make the now unused upper floors of buildings tenantable, while the waste water resulting from these sources might be uillised for flushing the sewer pipes: and, finally, this pressure would greatly increase the efficiency of the Fire Department and diminish

ita expense. The object of there investigations. which have proceeded over a period of sixteen months, was to determine upon a plan of water works for the city of Memphis that would be permament; to obtain a clear, pure, whole-some and abundant supply of water, and to devise ways and means whereby the works would be constructed. owned and operated by the city without imposing a burden upon the public more than the water rate now paid. The investigation is now concluded, and a summary of the plans that are proposed is now submitted for the astion of the committee.

SUMMARY. 1. It is proposed to establish a pumping station, or buildings to accommodate the pumping machinery, engine, point near where the Louisville and Nashville railroad crosses Wolf river, from which the public supply is to be

2 The water is to be delivered through one line of cast iron pine (30) inches in diameter, which is to follow the contours of the surface to the distributing reservoir. 3. The Hyatt filter plant is to be lo-cated at the end of the force main di-

taken.

rectly at, or near the embankment of the distributing reservoir.

4. The High Surface Tower is to be similarly located.

5. The Distributing Reservoir (ca-

pacity 21,666,250 gallons) is to be lo-cated on the west side of the Hernando road between McLemore and Richmond avenues, south 274°, east 13,050 feet, or 2 47-100 miles from the center of Court Square.

6. The water pumped from the station is to pass through the Filters and delivered in the Distributing Reservoir

filtered and serated. 7. The general supply will be delivered by gravity from the Distributing Reservoir. The high service supply will be delivered from the reservoir in the Tower. Each service is to be provided with its own supply main and distributing pipes, connecting with each other and cut off by stop gates. The cost of the plant will be \$692,000 Of the distributing pipe sys-tem. 250,000 8042,000

The annual cost of mainten-The annual interest at 5 per cent on the cost of plant will be \$47,600 \$ 96,000

The revenue (first year) in excess of maintenance and interest will be 9 24,000

COLTON GREENS. The Chairman's Report. Hon. D. P. Hadden, President Legislative Council:

GENTLEMEN-The committee appointed by you under the resolution of July 23, 1885, to consider "all matters appertaining to obtaining a bountiful supply of pure, clear and whole-some water for the use of the entire District; to take into consideration the purchase of the present water com-pany's plant by the District, or the es-tablishment of new water works cotablishment of new water works entirely; to consider the source whence
this water is to be obtained and the
probable cost of same, the building of
reservoirs and the probable cost of
keeping same in a pure and healthy
condition, and the erection of stand
pipes; in a word, to take into consideration everything relative to the water
question and the manner in which the
financial matters shall be arranged,
and the proper legislation to be oband the proper legislation to be obtained to carry out and concummate their views," have the honor of submitting a report of their del berations and conclusions, (ogether with sundry papers explaining the subject in detail. At the inception of our discussion we were confronted with the question of ownership. The committee telt it to be a matter of the first importance to de-termine whether it would be the river was at its lowest stage, to be termine whether it would be of greater advantage to the city to own its water works and exercise direct control over their management through officers to be ap-pointed for that purpose, or to confer it was ascertained that the expendi-

in a resolution, which was adopted April 16,1886, as follows: "It is the sense of this committee that, in view of the increasing population of the city, the construction of a system of permanent water works should be undertaken and carried out as soon as the necessary legislation can be secured by the Taxing District; and that, considering the paramount necessity for the perservation of the public health, the curity and future enlargement of the structures, and the economy in the management, the works should be constructed, owned and operated by

Inasmuch as the Fire Department, the sewer system and the Sanitary Department of our city are ex-Government, and as these departments are intimately related to the water works system, and are dependent upon it for their success and efficiency, it was thought to be eminently proper, and indeed essential to the highest efficiency of all these depart-ments, that the water supply, as well as the other departments, should be under the full and exclusive control of the city authorities. The committee bave an abiding faith that under our present compact and economical form of government there would be no increased danger of peculation, dishonesty or mismanagement by conferring on our municipal officers the additional duties growing out of a public water system. It must be conceded by all that any private corporation that would contract to supply the city with water would do leo only for the measure of profit that such a contract might promise. Such a measure involves the expense for president, officers and employes, besides profit to stockholders. Under city ownership, most of this expense would be saved to the people. For many years post Memphis has received her water sopply through such a corporation, and the expense has been far from satisfactory. The experience and example of all large cities in this country and others prove the advantage—yes, the necessity of city ownership. We may cite New York, Philade phia, Boston, Brooklyn, Chicago, St. Louis, Cincinnati, Louis-ville, Cleveland, Washington, and 500 more of the chief clies and towns of this country. Many of these have ex-perimented with the system of private ownership, and have discarded it. It is wise to profit by the experience of others. In European cities such a thing as private ownership in connection with the public water supply is not tolerated at all. Memphis has be-come a great commercial center, and is a growing city. A well devised sys-tem of water works, supplying clear, pure, soft water in abundance can now be established on a self supporting basis. Every year is adding largely to our population and increasing the water consumption. It is no visionary idea to see before us the time, at no very distant day, when our water works will become an important source of net revenue, and a potential factor in the extinguishment of our city debt.

In looking for the proper source of

supply, the committee has had under consideration perhaps every source

and every plan which has ever been before our people. The shallow well system, like that on Long Island, N. Y., and at Jackson, Tenn., was re-jected as impracticable for local reasons. The artesian well system was rejected because of its uncertainty and unreliability. Coldwater river, Mississippi, Tennesse river, Spring river, Arkansas, and Tuscumbia Spring, Alabama, were deemed impracticable as sources of supply be cause of the great expense involved in each of these plans, which was far beyond any sum that Memphis can afford to expend in this object. The foregoing all being rejected, the committee was narrowed down to Wolf river, South Horn Lake, and the Mississippi river, and to these three it has devoted close and elaborate investiga-In order to render p acticable and acceptable any point from which to draw a supply of water for this great city three conditions were ersen-The water must be sufficiently pure to be wholesome for all domestic uses; it must be abandant in quantity, and it must be obtainable at a cost not exceeding \$1,200,000, that being the limit at which the system can be made certainly self supporting, with our present population, esti-mated at 60,000. The committee has herefore sought definite and reliable information on these points in their relation to the three sources of supply last mentioned, viz.: Wolf river, Horn lake and the Mississippi river. Samples of water from each, taken in various stages and conditions, were sent to expert chemists for analysis. The Mississippi water was pronounced tery bad and altogether unfit for do-mestic use; Horn lake, less objec-tionable but not sa isfactory; Wolf river water, taken at the crossing of the Louisville and Nashville Railroad, was found to be comparatively pure and, after sedimentation and filtering was highly approved as suitable for all domestic uses, and for use in boil-ers. The analytical tables accompanying this report, prepared by the Drs. Elliott, of the Western Military Institute, near Dayton, O., and Dr. Chas, Smart, United States Army, of the Surgeon General's office, Wash-ington, D. C., will be found interesting in this connection. This result will be a surprise to many, but when it is remembered that the Miesissippi river and its tributaries drain an im river and its tributaries drain an im-mense territory, extending 1000 miles from north to south and 2000 from east to west, pepulated by 20,000,000 of people, with its hundred great cities, thousands of towns and villages, and countless manufactories of all descriptions, for which this might river performs the which this mighty river performs the daty of a common sewer, no farther demonstration is needed to confirm demonstration is needed to confirm the analyses which show that its water when it reaches Memphis is loaded with loud impurities and that it must become more so from year to year as the population of the Northwest increases. It is equally plain and credible that Wolf river, criginating from several copions springs lo-cated in a saudy district and coursing through a thinly settled country for a distance of only sixty miles to the pro-posed point of intake, without a town

analyses above referred to. As to the question of supply. From the Mississippi the quantity is of results will be obtained accompanies course unlimited. That from Horn this report.

All these results, and others of great Wolf river the discharge has been ascertained by careful messurements, taken in the autumn months after a over 8,000,000 gallons per hour, or thirty-five times more than the daily consumption of Memphia at this time. In view of these opinions it was serve the water pure for any length of upon some chartered company the ture would be about the same in cb. Street him for the task, and the fidely

privilege of supplying Memphis with water. Forcible arguments were adduced on both sides, but the committee finally reached a unanimous conclusion, and embodied their decision in a resolution which was adouted the committee found that any plan the committee found that any plan for taking a sufficient supply of water from that source would involve engi-neering problems which have never yet been solved and would entail an expense necessarily very great. So serious were these difficulties that there was not sufficient time or means at the command of the committee to justify them in undertaking the preliminary examinations and surveys which were necessary in order to determine the mere practicability of the scheme.

With there facts ascertained, the committee has been led almost irresistin, to the conclusion that Wolf river offers the true solution of the water question for Memphis. In common with the mass of our citizens the members of the committee, at the time of their appointment, were strongly an agonistic to Wolf river water. They knew it only by the supply that had been daily dealt out to us by the present water company for years past and which was taken from the river at the present location of their works, only a short distance above its config-ence with the Mississippi and with Bayon Gayoso, liable at all times to be contaminated by backwater from these streams and also receiving the foul drainings from the northern portion of our city. In the progress of its work the committee soon discovered that this was altogether a different water from that from Wolf river above the railroad crossing where it is antirely beyond the reach of the contaminating influences above referred to. It is the water taken from this higher po'nt that shows such satisfactory results under analysis, and it was here that the stream was gauged during its lowest stages and showed in hourly discharge of 8,800,000 gallons. Deriving its source from several copious springs, it reaches the point referred to in a condition of al-most original purity. The quantity of minerals, or other foreign substances contained in it is remarkably small, It is free from lime and is therefore very soft and specially adapted for use in laundries and boilers. The principal objection is the color imparted to the water from the clay soil of part of the country through which it flows. After heavy rains this is particularly noticeable and objectionable. But after the rains cease the abundant flow of clear water from above soon carries off the tainted current and cleanses the stream again. With ample reservoirs the pumping might be so regulated as to avoid taking the water while in its muddy condition, and thus the public supply might be kept comparatively clear. But to secure certainty on this score the committee have been engaged during the last six months in investigating the Hyatt filter, an invention of recent years, designed especially for filtering water in large quantities for the use of cities and towns. The assistance of skilled experts of national reputation in such matters was called in and with their help an exaustive exam-ination of this filter has been made. After several very important improve-ments which were suggested and adopted during the examination, the filter. has been pronounced a success by the experts, and the proprietors guarantee satisfaction in its work. By its adoption one or more of the reservoirs can be dispensed with, which would otherwise be required, and thus will be secured a net reduction in the cost of the plant together with in-creased net revenues, while at the same time we remove the stain and impurities which the river receives during the rainy spells; thus the works can operate continuously, and yet, by means of the filter, can supply clear, pellucid water at all times.

ter plant and high pressure service, will be \$952,000. Based on the experience of the present water company, the estimated revenue from water rates will exceed \$120,000 the first

The cost of maintaining and operating the works will be \$48,400, and the interest on cost, at 5 per cent., will be \$47,600, making a total expenditure per annum of \$96,000, and leaving a net revenue, over and above all expenditures, of not less than \$24,000 This gives us at the very outset a sell supporting water system; and the figures on which it is based are be-heved to be conservative and within the line of safety rather than beyond it. With the security that such a water plant and its revenues affords to investors it is believed that its bonds can be negotiated readily at 5 per cent, without any additional guarantees. But to "make assurance doubly sure," and to place these bonds at the very top of the list, the committee suggest that it might be the part of wis-dom to levy a light tax for the first few years in order to provide a certain fund to meet the interest, or to protect the interest from any possible de ficit of revenue. Such a provision, we have good reason to believe, would enable the city to negotiste the bonds at not exceed, ing 4½ per cent. This would effect a saving to the city of some \$4800 per annum on interest alone, and would to that extent increase the net revenues. At the end of two years after the works are once in full operation it is believed that their cess will be so fully established that the tax will no longer be required. In the meantime, while on one side the tax is being collected from the people, it will on the other side be more than returned to them in the reduced cost of water and in the enhanced value of

their property. It is now, therefore, a well estab-lished fact that Memphis has within her reach a water supply far superior to be celebrated Croton system of New York in quantity, quality and accessibility. The adoption of the power for running elevators of hotels and business houses, and also for op-erating light manufacturing establishments in any of the upper stories of buildings in the business portion of the city. By the use of a high pressure device in connection with a system of hose carriages, the efficiency or village on its banks, must closely approximate the character of spring much promoted in that part of the water when not turbid from rains, a city embraced within the high pres-

fact that is conclusively shown by the sure limits. A detailed description of the ma chinery by which these important results will be obtained accompanies

> value to our people the committee believes, will be attained by the ertablishment of a system of water works, to be owned and operated by the city in accordance with the plans described in the accompanying papers. To Gen. Colton Greene, of this committee, his associates committed the burden of this work. His knowledge of engineering hydraulies eminently

ity with which he has accomplished it is attested by the results which are erswith submitted.

The comm ttee have in conclusion adopted the following: WHEREAS, An abundant supply of pure water is absolutely essential to the health of our people and the safety of our property, and the general welfare of our city; therefore,

Be it resolved by the Water Committee of

Ten, That we urgently recommend the Leg's alive Council of the Taxing District to take immediate steps to secure the passege of a law at the next ses-sion of the Legislature authorizing the government of this Taxing District to build and operate a public system of water works; to issue bonds secured by the plant to pay for the same thereon, and to secure such additional legislation as may be needed for the successful accomplishment of the ob-

Resolved, further, That we recommend Wolf River, at a point above and near to the L & N. R. R. crossing, as the proper source of supply; and that we advise the adoption by the Legis-lative Council of the plan for a sys-

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FOR NATES.

we advise the adoption by the Legislative Council of the plan for a system of water works as described in the report made to this committee by Geo. Colton Greene, the details and particulars of which are embodied in the accompanying papers.

After the reports had been read and considered, Dr. Robert Mitchell moved that the report be received, approved and the resolution adopted and made the report of the committee to the Lygiclative Council. Adopted unanimously, and after recommending the publication of 1000 copies of the report the committee adjourned.

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MY LATE RESIDENCE PROPERTY on McLemore avenue, near State Female college. The property, which is in Greenwood, she most attractive and grow such subscribes and surplies and numerous and surplies and unsurpassed for healthuiners and source of from unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of free acres of ground unsurpassed for healthuiners and source of fre

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